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CENTRAL INTELLIGENCE AGENCY
INFORMATION REPORT

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SUBJECT **Course of Study and Policies of Metallurgical Technikum**

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1. Concerning the method of selection of students at Metallurgical Technikum in Mariapol, any student who had completed the ten-year high school or the four-year technical school and who had passed an entrance examination was eligible to study at the school. The selection standard was practically the same for all institutions with the exception of a non-technical school, such as schools for bookkeeping, economics, administration, etc. Selection of students in these institutions was less standardized.
2. Political affiliations and economic position had little to do with selection of students in Metallurgical Technikum. Practically all youths were members of the Komsomol or the Communist party. Nearly all students received some sort of stipend. Scholastic standing influenced selection of students only in that those with higher standings received larger stipends. Also those students who were exceptionally good on their entrance examinations received larger stipends. Up to 1940, there were some students who had to pay in part for their tuition.
3. In only very rare instances did a student have a choice of an institution. For the most part, students were assigned to institutions which were a part of the Ministry of Heavy Industry or part of the Ministry of Light Industry, wherever the need was greatest. Constant propaganda by the Communist Party decreed what institution a student must attend [sic]. The Ministry of Heavy Industry had metallurgical institutes located in Moscow, Dnepropetrovsk, Mariapol, and Stalingrad. In 1936, three thousand students were in the four institutes.
4. There was never a shortage of textbooks and students had available as many as were needed. The books, having current publication dates in most cases, contained good illustrations and a good quantity of various problems. Up to 1940 about 20 per cent of the books were translations of foreign books (German and some English); the remainder were Soviet publications.

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5. Hours of instruction ranged from five to eight daily; the average was six hours. Classes consisted of 25 to 40 students. The first three years of instruction ran ten months. The fourth year consisted of four months of instruction and six months of practical work in a nearby metallurgical factory. Training aids consisted of charts and models, but most of the training was in a nearby factory.
6. [redacted] there was no individual instruction or private tutoring. [redacted] some presentation by graduate assistants but this was not done in any [redacted] classes. In most cases, relations between students and professors were quite informal; but this was left to the discretion of each professor.
7. Without a doubt, the influences of area or industrial demands decided the scope of emphasis in study. Every metallurgical institute was located near a metal factory; in some cases, metals factories were constructed near metallurgical institutes.
8. Laboratory class size was about 25 to 40 as were other classes. Laboratory periods in chemistry and physics ran two hours per week in each subject for the first two years. Total hours of such were about 500. Exceptional graduate assistants worked as laboratory instructors. Laboratory equipment was of standard size. For experiments in metallurgy we went to a nearby factory and performed the same work as did the laborers. Approximately 400 hours were spent in organic, analytical, and physical chemistry courses. During the period of my time at the institute we had no group demonstrations. All of our training consisted of individual work.
9. Both oral and written examinations were used. Written exams were used usually in mathematics. There were some laboratory-type examinations in chemistry and physics. Examinations were scheduled once each month in mathematics, chemistry, and physics and at the end of each term in all subjects. Examinations were standardized and the same in all institutes.
10. Examinations were graded by the numbers method. Grade "5" was the best and grade "1" the poorest. Written examinations were checked and corrected by the instructors and returned with comments. In order to graduate a student had to have an average of grade "3". In certain subjects he had to maintain a grade "4".
11. Most of the students were either Komsomols or members of the Communist Party; therefore, we could exercise no political influence on an examination.
12. Sample mathematics examinations consisted of four to five problems in analytical, integral differential, and logarithmic mathematics.
13. Up to 1940 there were no leading scientists actively engaged in theory on the undergraduate or graduate level.
14. Students spent about 15 hours per week on independent research and about 50 hours each semester on assigned research topics. In a metallurgical institute we spent considerable time on industrial problems. An example is a problem which we were given during the last six months of our term. We had to determine the capacity of a Martin furnace in a nearby factory and describe the process from raw ore to finished steel. (In non-technical institutes, there were governmental problems.) Written reports of such projects sometimes satisfied thesis requirements.
15. Instructors in metallurgical institutes were of high caliber. They had to have been good metallurgists for no less than five years and to have served as an assistant professor for four more years to become full professors.

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16. Curriculum requirements included:

mathematics	three hours per week	first two years
physics	two hours per week	first two semesters
chemistry	two hours per week	first two years
history	150 hours	first two years
(about one hour per week on contemporary history during the third semester and none the fourth semester)		
philosophy of		
Marxism	400 hours	each semester
languages (German and Russian if it were not the students language)	two hours per week	first three semesters
metallurgy	three hours per week	third semester and last six months of last semester

17. In order to graduate, the student had to have completed 30 to 36 subjects totaling about five thousand hours of class work and six months of practical work. Upon graduation, each student had to answer at least two questions each on Marxism and Leninism.
18. To a certain extent the training of metallurgists was slanted toward a particular field. Outstanding students would specialize toward being a foreman in a metallurgical factory, a director of a division (physics or mechanics), or for the title of metallurgical engineer.
19. Out of a class of 40 students, 25 usually remained at the end of the first year. If a student failed in metallurgical and had the courage, he could pursue teaching, bookkeeping, government administration, or some other non-technical field. Some even started over again in metallurgy.
20. An exceptional student having good potentiality as a metallurgist could serve as an assistant at the institute for a period of two to four years and then be assigned as a foreman in a metallurgical factory, a director of a division, or a metallurgical engineer.
21. Concerning other assignments, a student's chances of obtaining a good job were much better if he had influence with a director of a large industry. Graduates were sometimes assigned to a specific area by the Ministry of Heavy Industry or Light Industry without having any choice in the matter.
22. Certain exceptional students were assigned to other institutes for higher education-- the Metals Division of the Academy of Science in Kiev, Moscow, or Kharkov or the Metallurgical Division of the University of Moscow or the Polytechnical Institute in Kharkov.
23. Additional training in order to keep up with technical advancement was available and good. For example, the new steel plant at Mariapol, "Azov Steel", had new tilting-type steel furnaces installed. As soon as this plant was opened, Metallurgical Institute students were instructed on its functions and capabilities.

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